Press Release
Date: October 12, 2006

Contact Info:

Suzana C. Iveljic, MBA
Director of Operations & External Relations
Advanced Platform Technology (APT) Center
Louis Stokes Cleveland Veterans Affairs Medical Center
10701 East Blvd. 151 AW/APT
Cleveland, Ohio 44106
Phone: 216-707-6421
Direct: 216-791-3800 ext 6001
Fax: 216-707-6420
E-mail: siveljic@fes.case.edu
www.aptcenter.research.va.gov

The Advanced Platform Technology (APT) Center held a Prosthetics Needs Assessment on Thursday, September 21st at the Louis Stokes Cleveland Veterans Affairs Medical Center – The Learning Exchange.

The goals of the workshop were to enable the voice of the prosthetic user to be heard, collaborations to be built, and future research directions to be set.

The workshop focused on unmet needs in limb prosthetics and potential ways in which these might be met by new technologies including dynamic biomaterials, polymers, nanotechnology and MEMS. The format consisted of small group brainstorming sessions including users of prostheses, researchers, clinicians, and industry using a learning laboratory.

Over 50 individuals from across the country, all experts in or users of prosthetic technology attended. The prosthesis users were given the opportunity to voice their most pressing needs and share their daily experiences and potential solutions. The small groups, then, put together action plans and timelines to guide future research submissions.

Workshop participants had positive things to say:

"I came away with a lot of valuable information and made many contacts I hope to have for future collaborations." – Brian Ruhe, Graduate Student Northwestern University, and Prosthetic User

"This is an opportunity for the prosthetics industry to get together and set the vision for the future." – Jeffrey Gerber, Area Manager, Ossur North America

"I am developing a new prosthetics laboratory within the Cleveland VA and plan to incorporate what I heard into my design." Thomas Teklinsky, Cleveland VA Prosthetist

"What a remarkable opportunity for the many disciplines - research and science, clinicians, users, and industry – to come together and learn from and with one another." Graham Creasey, MD, FRCSEd, APT Center Medical Director

Figure 1. Group Discussions.

Figure 2. All Participants.

Figure 3 Display of evolution of Prosthetic Limbs

The APT Center is a VA Office of Rehabilitation Research & Development Center of Excellence awarded January 2005 in partnership with Case Western Reserve University. Clinicians, investigators, and staff work together to bring the clinical needs of veterans to the attention of the engineers and scientists pursuing new and emerging technologies in order to apply them for the purposes of reducing disability, improving daily functions, and enhancing quality of life. This is a technical center that designs and builds prototype devices that are clinically meaningful. The APT Center supports rehabilitation research by adapting cross-cutting foundational technical platforms to meet specific needs for advanced prosthetic systems, sensory aids, and other clinical applications. Most grant-supported research concentrates on system development, pre-clinical testing, and clinical studies. The APT Center focuses on other aspects of the product development cycle, specifically 1) the identification of user needs, 2) the generation of new concepts (innovation), and 3) the development of new technologies through prototype and production stages. By shifting focus, the center staff are able to provide support to other Centers of Excellence when they need novel technologies or reach the point of technology transfer.

Example capabilities include: 1) Microelectromechanical systems (MEMS) design and fabrication, 2) neural interfacing, 3) polymer and bioactive material development, 4) rapid prototyping, 5) system validation and design control, and 6) circuit and software design.

Example technologies include: 1) EMG, EEG, ENG signal acquisition and processing, 2) Implantable sensing, recording, stimulating, and communication devices, 3) Pressure, volume, acceleration, and other physical or chemical sensors, 4) Portable computer controlled systems for surface and percutaneous stimulation, and 5) Stimulating and recording electrodes.

For further information please visit our website at www.aptcenter.research.va.gov.

###